

## HYDROGEL-FORMING SYSTEM WITH HYDROPHOBIC AND HYDROPHILIC COMPONENTS

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### Abstract of the Disclosure

A hydrogel forming system which comprises a hydrophobic macromer with unsaturated group terminated ends and a hydrophilic polymer which is a polysaccharide containing hydroxy groups which are reacted with unsaturated group introducing compound, is convertible by free radical polymerization to form a hydrogel containing a three dimensional crosslinked polymer network containing hydrophobic and hydrophilic components. Preferably, the hydrophobic polymer is prepared by reacting the hydroxyls of a diol obtained by converting hydroxy of terminal carboxylic acid group of poly(lactic acid) to aminoethanol group, with an unsaturated group introducing compound which is acryloyl chloride or isocyanate having an unsaturated group at one end of the molecule. Preferably, the hydrophilic polymer is dextran wherein one or more hydroxyls in a glucose unit of the dextran is (are) reacted with an unsaturated group introducing compound which is acryloyl chloride or isocyanate having an unsaturated group at one end of a molecule. Agent can be entrapped in the polymer network, e.g., drugs, water-soluble macromolecules or synthetic or natural polymers, for controlled release therefrom.